

Part Two

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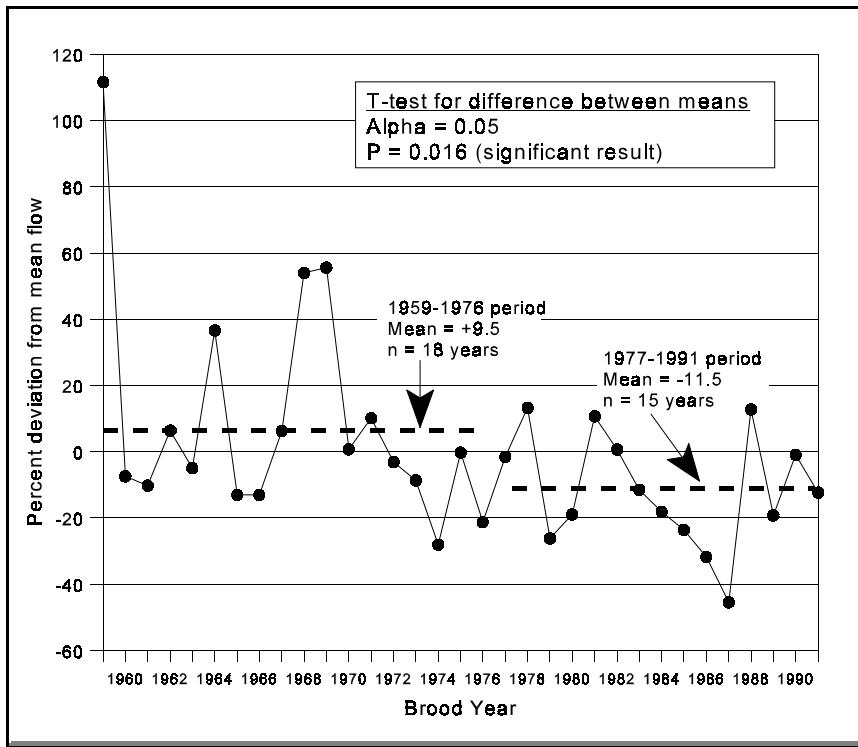
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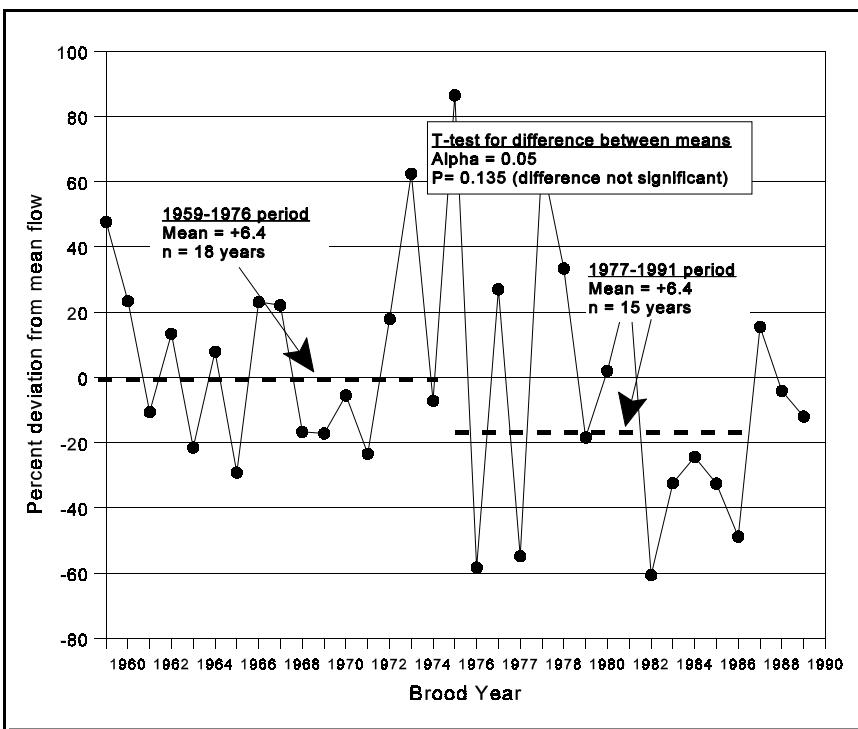
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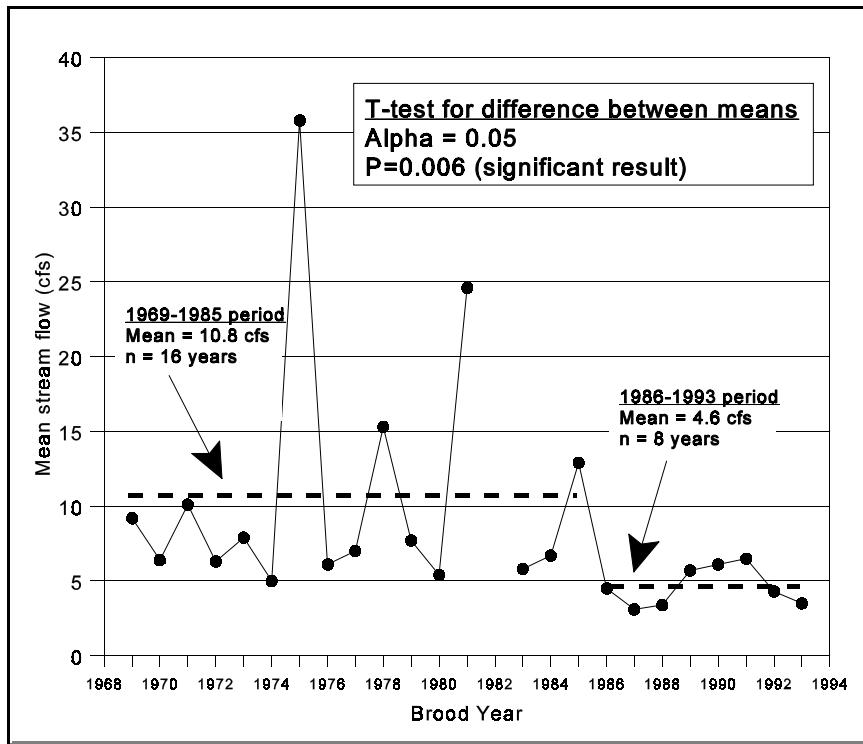
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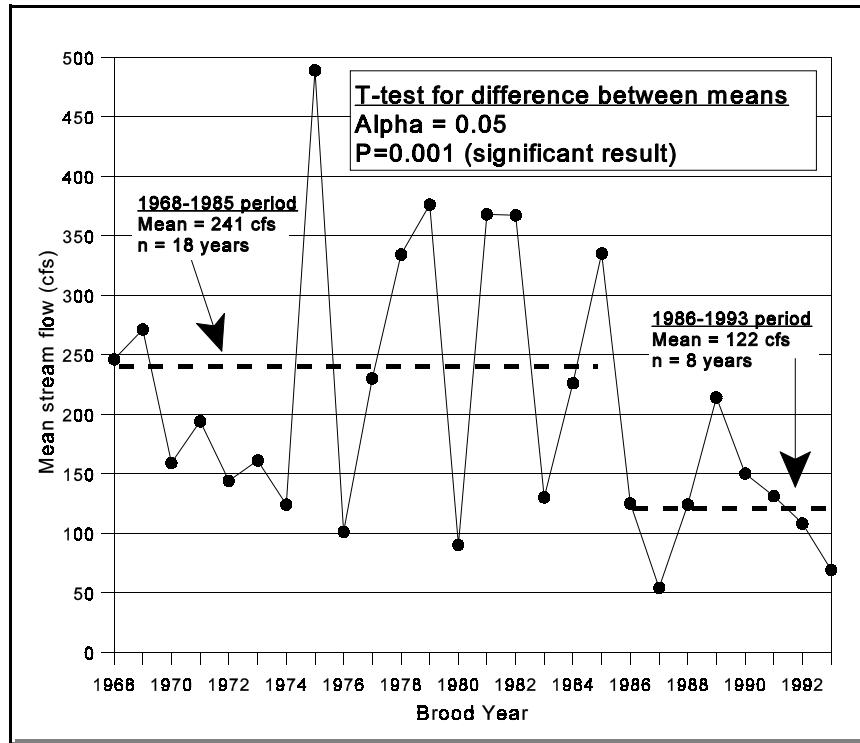
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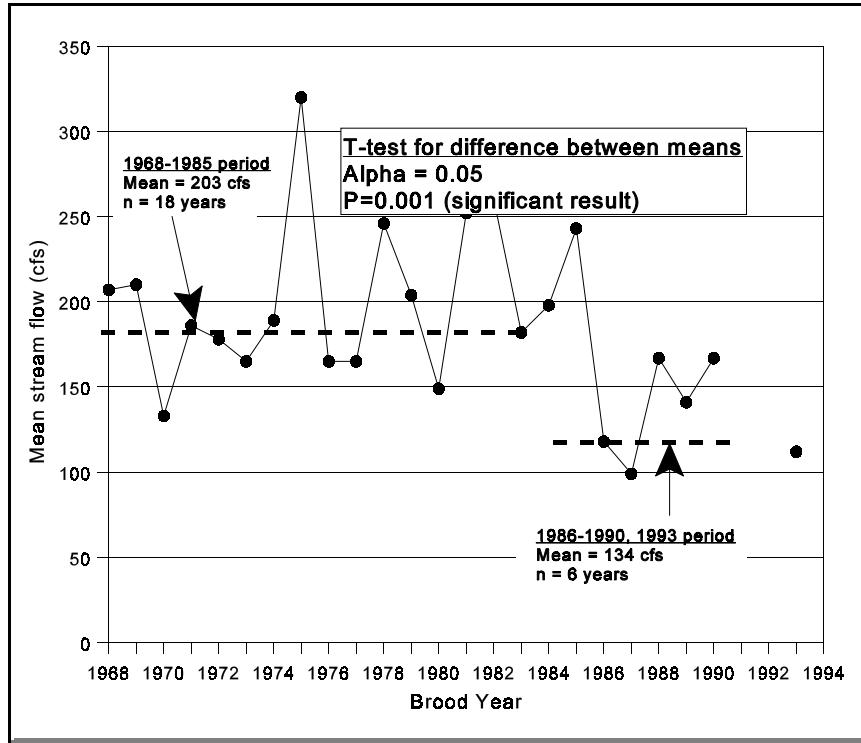
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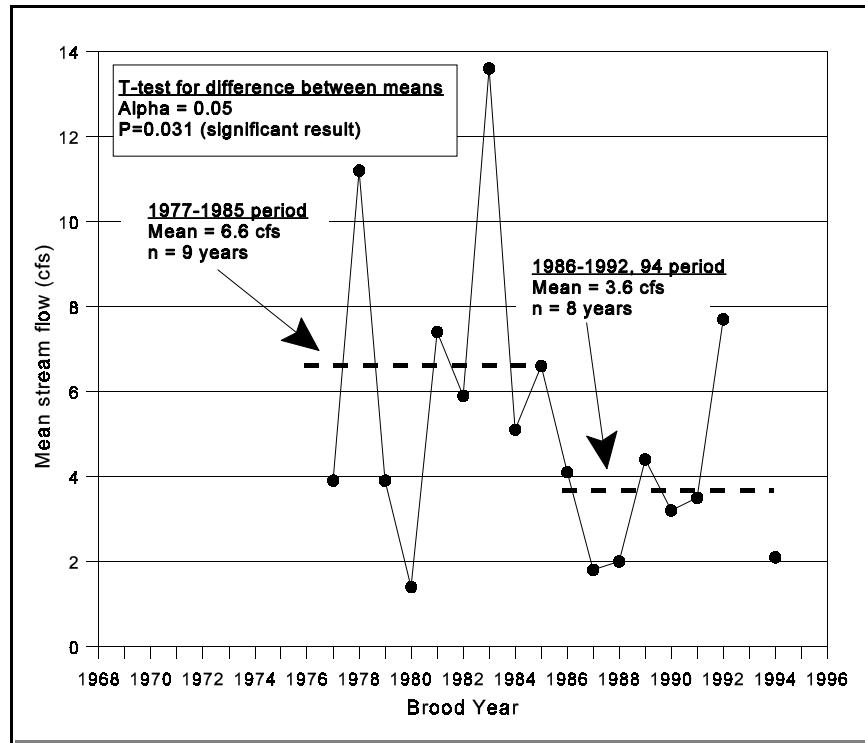
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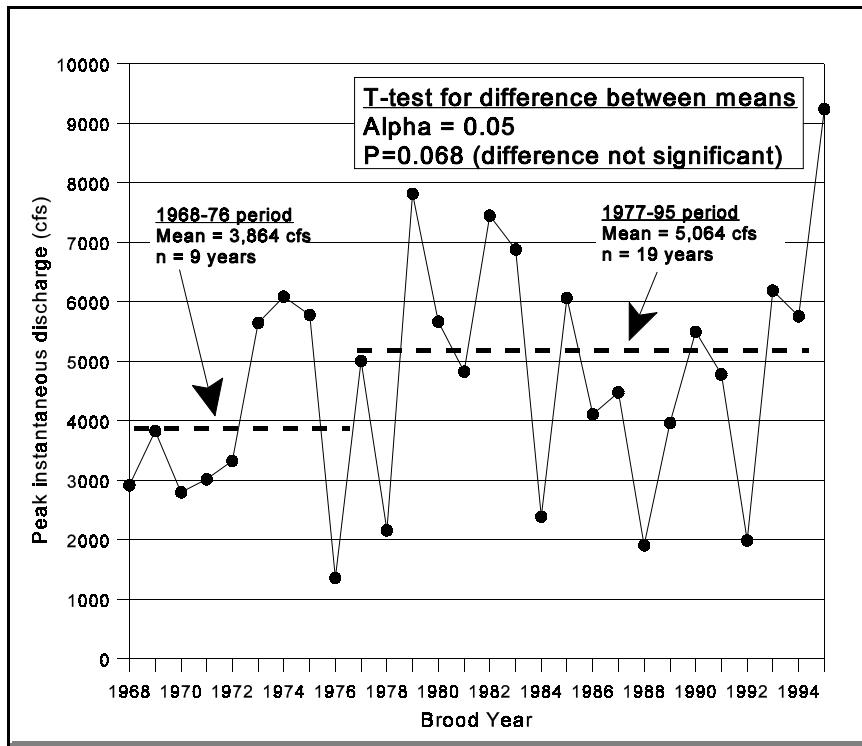
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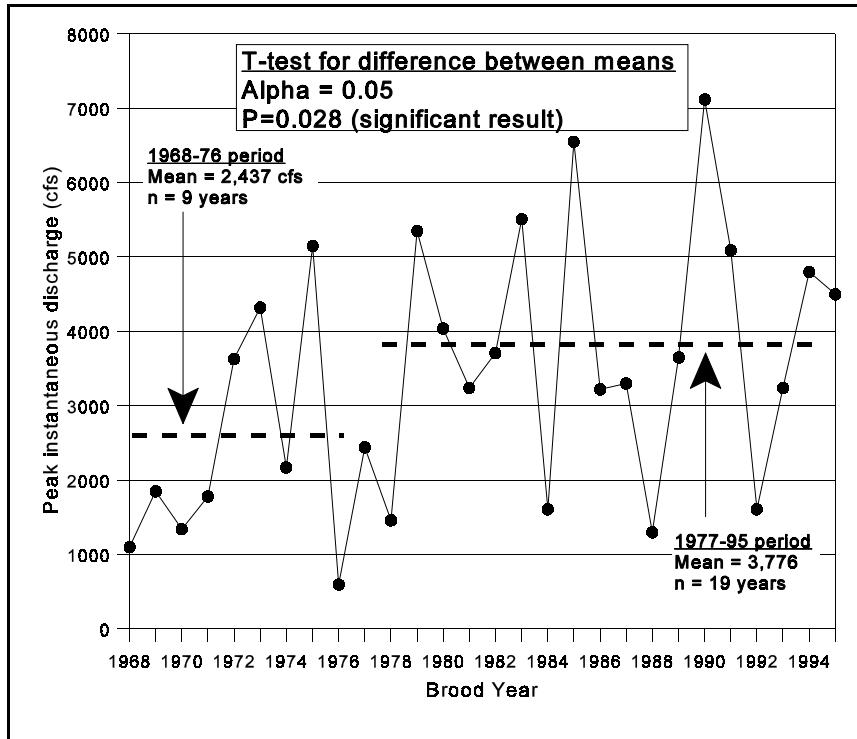
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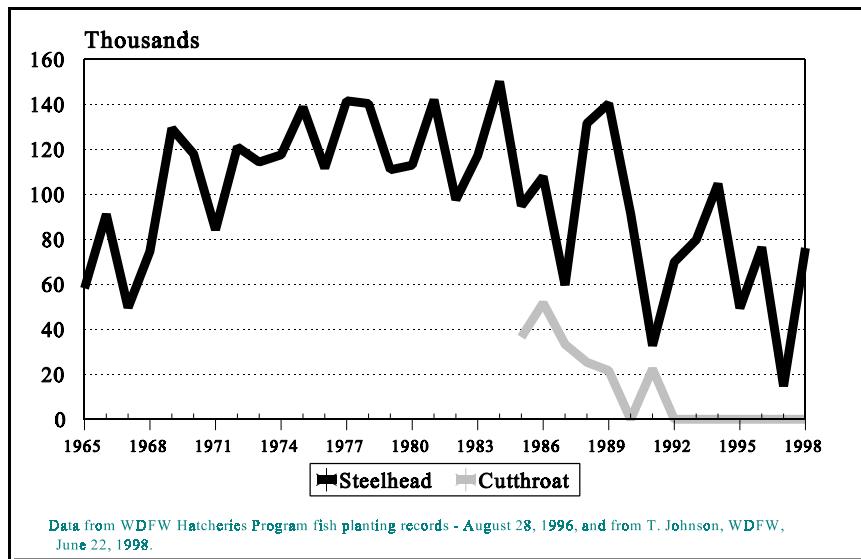
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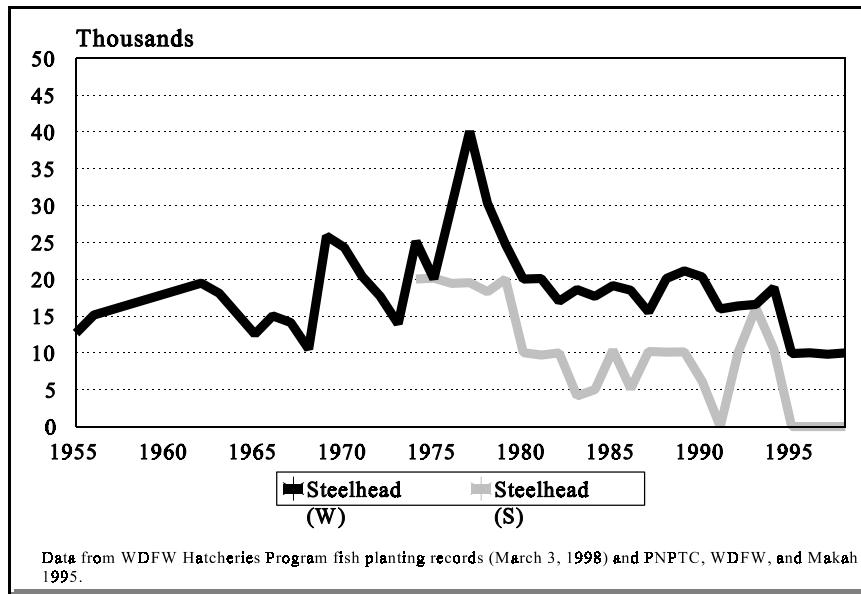
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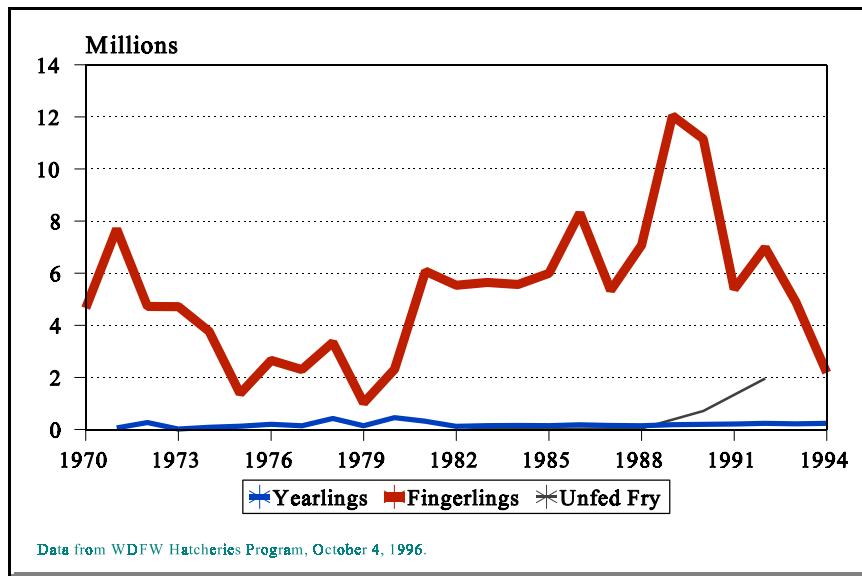
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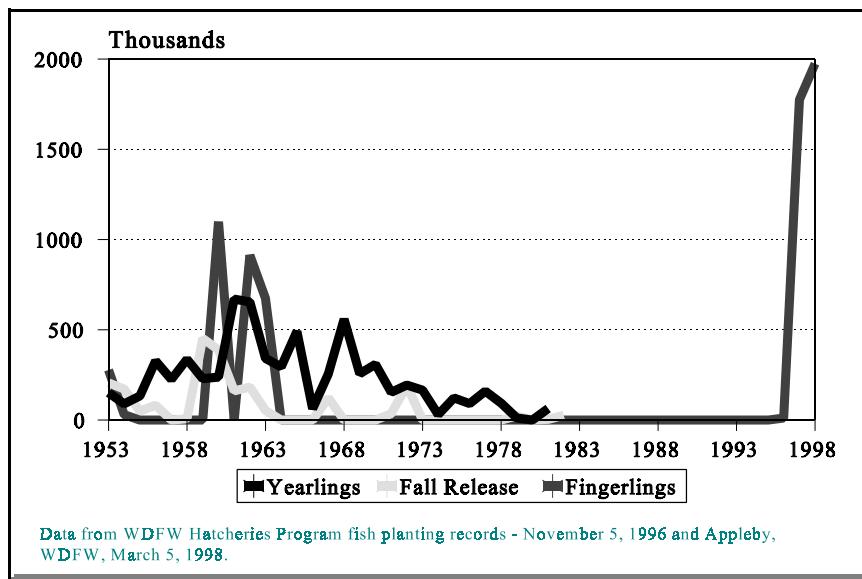
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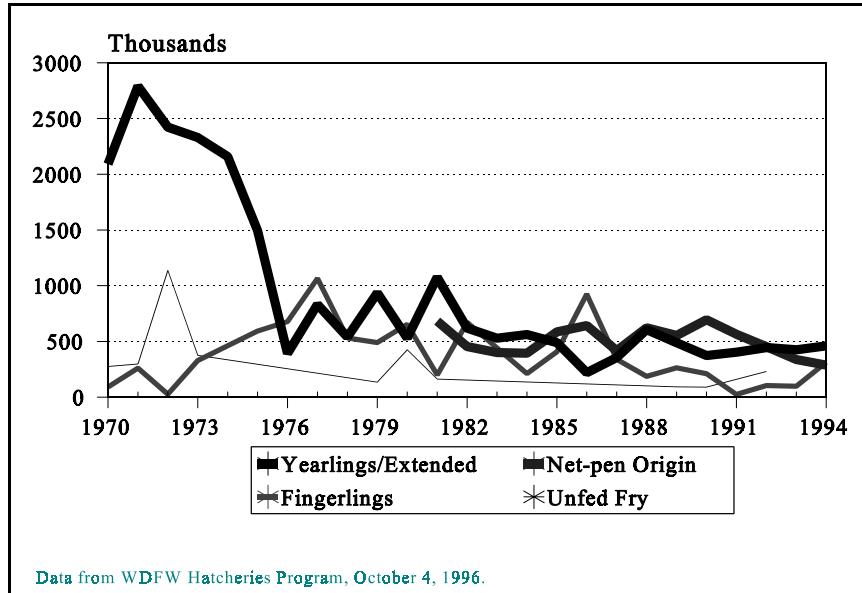
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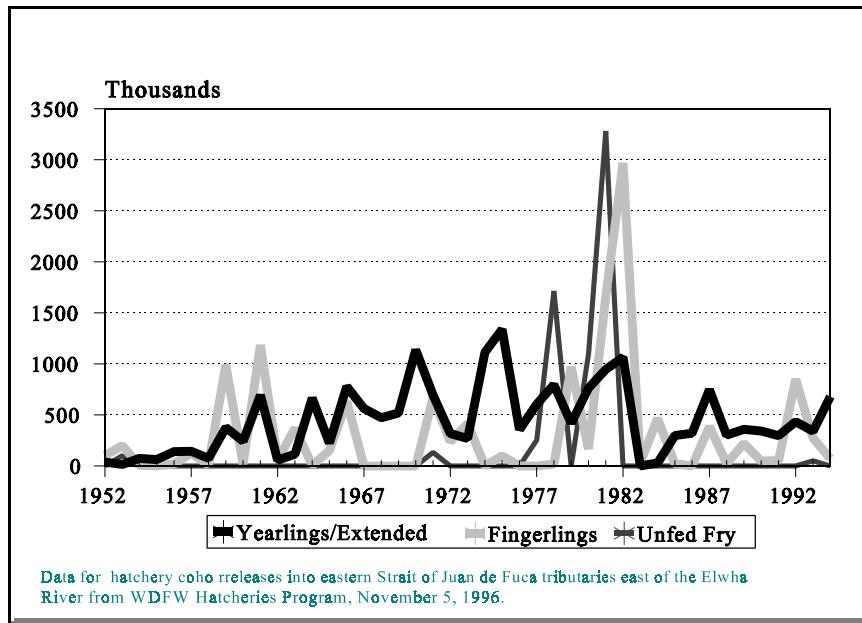
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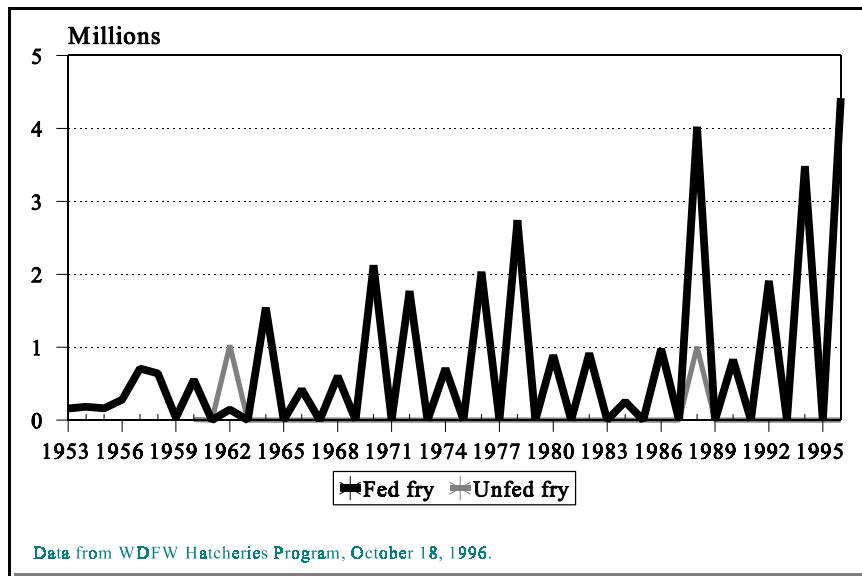
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Appendix Figure 2.13. Hatchery -origin coho salmon out-plants in the Hood Canal region, 1970-94.



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Appendix Figure 2.15. Hatchery-origin pink salmon out-plants in the Hood Canal region, 1953-95.

Appendix Tables

Appendix Table 2.1. Puget Sound Stream Flow indexes, mean monthly stream flows for September - October and average peak instantaneous flows in various streams for differing time periods between 1959 and 1995.

Appendix Table 2.2. Results of statistical tests of significance for changes in mean flows and peak instantaneous discharges over time for the PSSFI and several streams. One tailed t-tests ($\alpha=0.05$) were used to examine the null hypotheses of equality between mean flows for various time periods (see Part Two, section 2.2.2.3).

Appendix Table 2.3. Hood Canal summer chum escapements and fall chum salmon escapements to those streams with summer chum populations (1974-1998).

Appendix Table 2.4. Annual liberations of Finch Creek stock fed and unfed fall chum fry from WDFW hatcheries in Hood Canal, Washington, 1969-93.

Appendix Table 2.1. Puget Sound Stream Flow indexes, mean monthly stream flows for September - October and average peak instantaneous flows in various streams for differing time periods between 1959 and 1995.

Brood Year	PSSFI Low 10	PSSFI High 10	B. Beef Cr. Mean Flow	Duckabush Mean Flow	Snow Cr. Mean Flow	Dungeness Mean Flow	Duckabush Peak Flow	Dungeness Peak Flow
1959	111.62	47.74						
1960	-7.36	23.39						
1961	-10.21	-10.55						
1962	6.39	13.40						
1963	-4.87	-21.50						
1964	36.55	7.93						
1965	-12.98	-29.24						
1966	-13.02	23.12						
1967	6.31	22.05						
1968	54.00	-16.71		246		207	2920	1100
1969	55.58	-17.17	9.2	271		210	3830	1850
1970	0.75	-5.48	6.4	159		133	2800	1340
1971	10.16	-23.41	10.1	194		186	3020	1780
1972	-3.09	17.94	6.3	144		178	3330	3630
1973	-8.60	62.48	7.9	161		165	5650	4320
1974	-28.03	-7.19	5.0	124		189	6090	2170
1975	-0.24	86.50	35.8	489		320	5780	5150
1976	-21.20	-58.31	6.1	101		165	1360	597
1977	-1.49	27.01	7.0	230	3.9	165	5010	2440
1978	13.29	-54.84	15.3	334	11.2	246	2160	1460
1979	-26.14	66.37	7.7	376	3.9	204	7820	5350
1980	-18.94	33.38	5.4	90	1.4	149	5670	4040
1981	10.73	-18.40	24.6	368	7.4	252	4830	3240
1982	0.72	2.00		367	5.9	260	7450	3710
1983	-11.47	28.73	5.8	130	13.6	182	6880	5510
1984	-18.06	-60.55	6.7	226	5.1	198	2390	1610
1985	-23.61	-32.37	12.9	335	6.6	243	6070	6550
1986	-31.73	-24.42	4.5	125	4.1	118	4110	3220
1987	-45.43	-32.57	3.1	54	1.8	99	4480	3300
1988	12.82	-48.78	3.4	124	2.0	167	1910	1300
1989	-19.23	15.53	5.7	214	4.4	141	3970	3650
1990	-0.91	-4.05	6.1	150	3.2	167	5500	7120
1991	-12.31	-12.04	6.5	131	3.5		4780	5090
1992			4.3	108	7.7		1990	1610
1993			3.5	69		112	6190	3240
1994					2.1		5760	4800
1995							9240	4500

Appendix Table 2.2. Results of statistical tests of significance for changes in mean flows and peak instantaneous discharges over time for the PSSFI and several streams. One tailed t-tests (alpha = 0.05) were used to examine the null hypotheses of equality between mean flows for various time periods (see Part Two, section 2.2.2.3).

Puget Sound Stream Flow Index (10-day low flows, Sept. 15 - Nov. 14)

Mean 1959-1976 vs. mean 1977-1991 significantly different (P=0.016)

Puget Sound Stream Flow Index (10-day high flows, Nov. 15 - Feb. 14)

Mean 1959-1976 vs. mean 1977-1991 not significantly different (P=0.135)

Spawning Flows (September/October mean flows)

Big Beef Creek

Mean 1968-1976 vs. mean 1977-1993 not significantly different (P=0.216)
 Mean 1968-1985 vs. mean 1986-1993 significantly different (P=0.006)
 Mean 1968-1976 vs. mean 1977-1985 not significantly different (P=0.484)

Duckabush River

Mean 1968-1976 vs. mean 1977-1993 not significantly different (P=0.433)
 Mean 1968-1985 vs. mean 1986-1993 significantly different (P=0.001)
 Mean 1968-1976 vs. mean 1977-1985 not significantly different (P= 0.128)

Dungeness River

Mean 1968-1976 vs. mean 1977-1993 not significantly different (P=0.259)
 Mean 1968-1985 vs. mean 1986-1993 significantly different (P=0.001)
 Mean 1968-1976 vs. mean 1977-1985 not significantly different (P=0.237)

Snow Creek

Mean 1977-1985 vs. mean 1986-1994 significantly different (P=0.031)

Incubation Flows (October/March peak instantaneous flows)

Duckabush River

Mean 1968-1976 vs. mean 1977-1995 not significantly different (P=0.068)
 Mean 1977-1985 vs. mean 1986-1995 not significantly different (P = 0.279)

Dungeness River

Mean 1968-1976 vs. mean 1977-1995 significantly different (P= 0.028)
 Mean 1977-1985 vs. mean 1986-1995 not significantly different (P=0.493)

Appendix Table 2.3. Hood Canal summer chum escapements and fall chum salmon escapements to those streams with summer chum populations (1974-1998).

Return Year	Summer Chum Escapements	Fall Chum Escapements
1974	12,281	20,231
1975	18,248	8,060
1976	27,715	23,319
1977	10,711	8,959
1978	19,710	39,460
1979	6,554	4,955
1980	3,776	7,338
1981	2,374	6,092
1982	2,623	5,133
1983	863	2,766
1984	1,414	10,479
1985	1,109	28,393
1986	2,552	14,752
1987	757	12,963
1988	2,967	18,007
1989	598	13,777
1990	429	15,339
1991	744	21,500
1992	2,368	59,221
1993	751	39,242
1994	2,423	101,160
1995	9,462	84,080
1996	20,514	168,164
1997	8,971	34,700
1998	4,020	54,891

Appendix Table 2.4 Annual liberations of Finch Creek stock fed and unfed fall chum fry from WDFW hatcheries in Hood Canal, Washington, 1969-93.

Brood Year	Unfed Fry			Fed Fry			
	Total	Pre April 1	(% Total)	Total	Pre April 1	(% Total)	(Avg. FPP)
1969	188,748	0	0%	795,040	0	0%	-
1970	0	0	0%	1,447,406	0	0%	-
1971	508,000	112,000	22.0%	855,110	0	0%	-
1972	64,600	64,600	100%	974,568	0	0%	-
1973	323,600	0	0%	2,012,198	0	0%	-
1974	0	0	0%	9,408,285	0	0%	-
1975	0	0	0%	8,465,125	0	0%	-
1976	85,000	0	0%	13,594,756	507,825	3.7%	650
1977	0	0	0%	7,939,467	1,324,075	16.7%	547
1978	5,230,000	475,000	9.1%	24,376,329	13,424,882	55.1%	684
1979	6,068,700	3,524,300	58.1%	33,041,394	1,781,700	5.4%	900
1980	5,842,192	0	0%	30,498,031	11,847,861	38.8%	704
1981	0	0	0%	16,859,884	4,253,000	25.2%	530
1982	7,921,700	2,500,000	31.6%	27,983,444	5,113,000	18.3%	649
1983	0	0	0%	28,325,669	5,000,000	17.7%	578
1984	4,374,157	1,445,000	33.0%	45,955,845	13,978,300	30.4%	869
1985	5,483,300	2,684,600	49.0%	31,051,700	9,010,100	29.0%	795
1986	6,400,600	0	0%	33,999,500	13,240,200	38.9%	640
1987	5,763,900	3,033,900	52.6%	34,358,600	14,189,700	41.3%	680
1988	5,284,500	5,284,500	100%	29,932,600	5,172,600	17.3%	916
1989	6,106,500	3,853,000	63.1%	28,415,000	10,410,200	36.6%	697
1990	0	0	0%	19,619,100	4,000,000	20.4%	733
1991	7,175,500	7,175,500	100%	31,463,600	12,508,300	39.8%	657
1992	8,744,000	8,494,000	97.1%	30,908,200	20,073,200	64.9%	494
1993	2,990,600	0	0%	30,215,050	7,294,000	24.1%	616
Average	3,142,224	1,545,856	49.2%	20,899,836	6,125,158	29.3%	686

Note: Hatchery production data from WDFW Hatcheries Program, March 21, 1997.